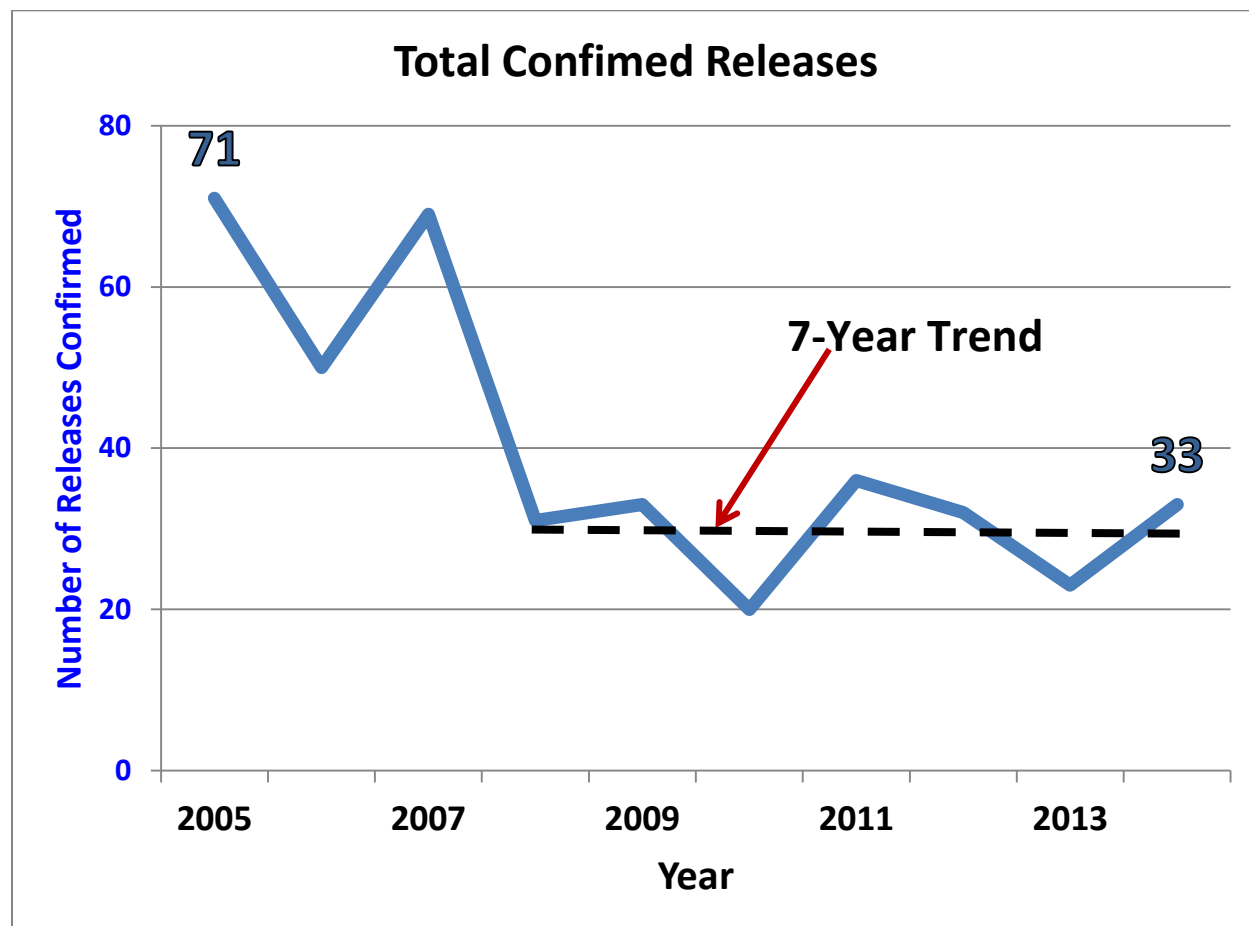




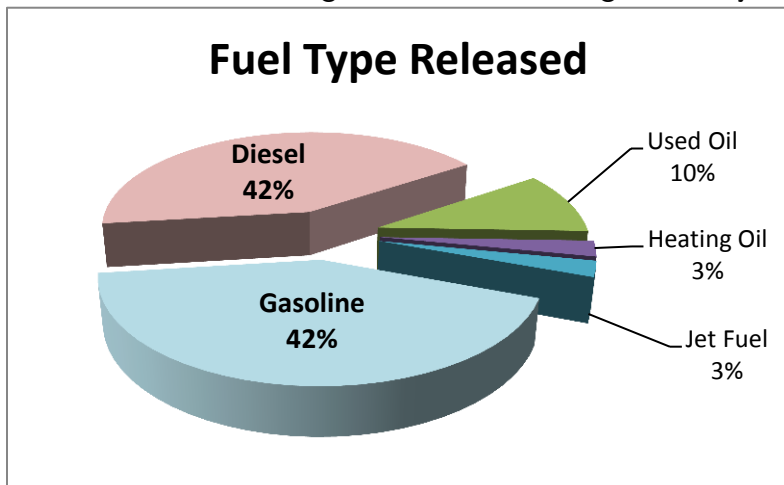
2014 Leak Autopsies

Mike Trombetta, DEQ

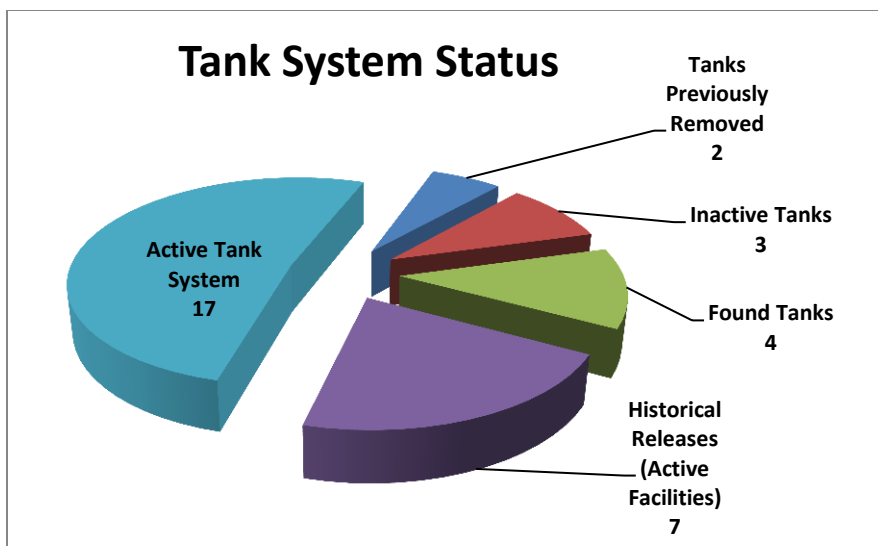
Montana's 33 confirmed petroleum storage tank releases in 2014 is up from 23 new releases the previous year. However, this is right in line with the fairly flat trend of about 30 new releases confirmed each year since 2008.



The majority of the fuel types released were split equally between gasoline and diesel, with a minor smattering of used oil, heating oil, and jet fuel.

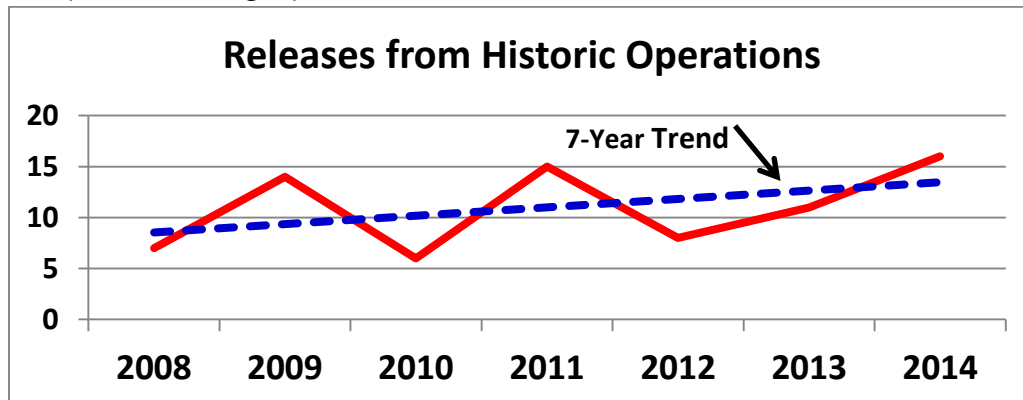


Seventeen, or a little over half, of these releases originated from active tank systems, with the remainder coming from historical releases, "found" tanks, or inactive (sub-standard) tanks.

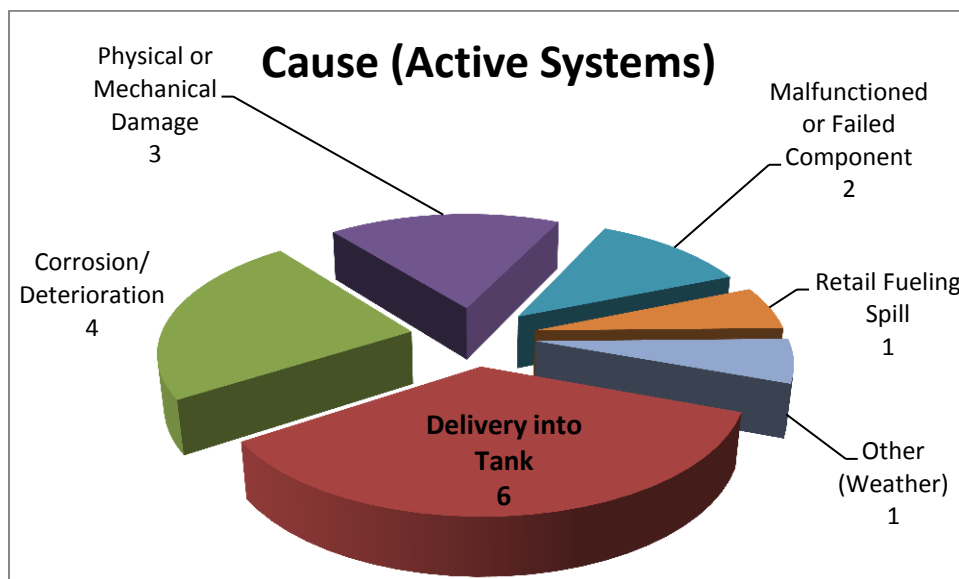


The number of releases from other than active tank system has risen to its highest number since 2007, at 16. This is consistent with the seven-year trend that shows a continuous rise in these types of non-active sources, but is unexpected since the number of historical releases and unfound tanks is finite, and must also be getting smaller as we discover them. This increase could very likely be due to increases in construction projects and property transactions. Six of these releases were found through environmental assessments (typically associated with land sales/development), and four were discovered through on-site and off-site construction projects.

It is also worth noting that seven historical releases were discovered at facilities with active storage tanks. Although petroleum storage systems were currently operating at these sites, DEQ determined that the contamination pre-dated the existing equipment and was associated with older operations. This was significant enough to break it out as a separate category: Historical Releases at Active Facilities.



These “Leak Autopsy” reports provide good lessons learned on how to prevent future releases. Because data from active tanks provides the best information to improve current systems and procedures, the remainder of this discussion will focus on the 17 releases from active tank systems. Six of the releases involved overfilling a storage tank (UST or AST).



Five releases were caused by fuel being pumped into the wrong tank; four of which were operator error; and one was due to a malfunction in a valve relay. One downspout adapter came off while offloading into an UST. The precise cause of one

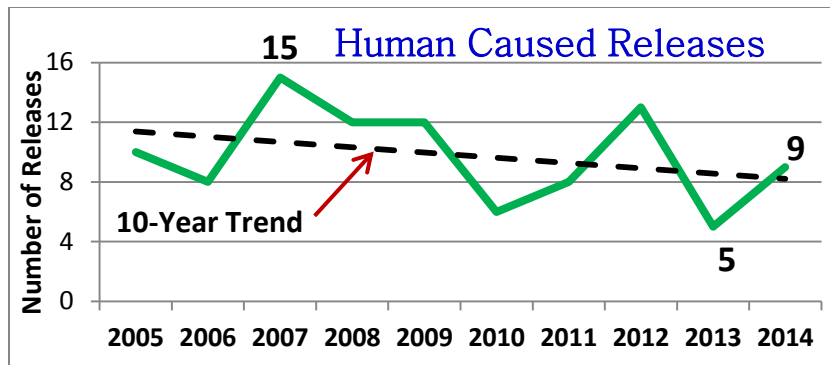
delivery problem is not known as the contamination was only discovered after the fact and was attributed to tank overfills and spills.

It is noteworthy that four releases were caused by corrosion or deterioration of active tank systems. One release was from a pin-sized corrosion hole in a short length of galvanized steel pipe directly below a dispenser. Another corrosion release was caused by a hole that rusted through an above-ground heating oil tank.

Two “deterioration” releases originated from flex connectors that failed approximately one month apart at the same facility that highlight issues concerning aging tank equipment. In both cases the flex connectors deteriorated and developed leaks. As stated in a companion article in this issue, *Your Flex Connectors and You*, these flexible sections of pipe have a finite life cycle and are not designed to last forever. This life cycle may be shortened when they are installed with tighter bend radii. The good news is that both of these releases were discovered through leak detection equipment. Line leak detectors went into slow flow mode and alerted the facility operators, who properly managed complaints of slow pumping, were able to limit environmental impacts, and reduce remediation costs.

Three releases were caused by physical damage to the tank system. One product line was damaged during underground utility work and another above-ground dispenser was struck by a vehicle. The third release occurred from a 300 gallon dyed diesel AST at a ranch. The owner was standing on top of the AST when the support failed, causing the tank and owner to fall to the ground. Approximately 65 gallons of dyed diesel were released on the ground and the rancher broke his ankle.

Two releases occurred when components malfunctioned. One was a faulty switch that did not disengage a pump and continued to run. Fuel slowly pushed through two closed gate valves into, and overfilling, another tank. The other equipment failure was a pump on a waste oil collection truck. Instead of removing the contents of a collection tank at an automobile dealership, the truck pumped its on-board contents into, and overfilling, the 500 gallon collection tank.



Although the ten-year trend of human caused releases is continuing to decline, this year's number of nine nearly doubles the all-time low of last year's five human caused releases. Two-thirds, or six, of these releases were initiated by errors of the facility or delivery truck operators during tanker offloading operations. This is a disturbing and continuing trend we have seen where releases are caused r by professionals in our industry each year. If operators took proper care to ensure connections are made correctly, valves are set right, and pumps are turned off following deliveries, these types of releases could have been avoided. It is also critical that operators and/or drivers stay in clear sight of the tankers and tanks throughout the entire delivery. Please be careful out there!